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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/595,360	06/15/2000	George L. Bees	FOM-119.01	9301

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FOLEY HOAG, LLP
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EXAMINER

NGUYEN, TUAN M

ART UNIT PAPER NUMBER

2828

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/595,360

Applicant(s)

BEES, GEORGE L.

Examiner

Tuan M Nguyen

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

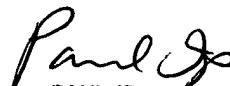
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-16 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7 and 9-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oliver et al (6,442,181) in view of Richardson (4,803,378).

With respect to claims 1 and 9, Oliver et al disclose the gas discharge laser comprising Power supply (200), the switches (Q1, Q2, Q3) the input connection to power supply and the output connection to a capacitor (42) for storing energy to be delivered to pulse discharge system, the control board (204) is acting as a sensor for monitoring the voltage cross the capacitor, the digital voltage command (210) is acting as a controller to responsive to the voltage across the capacitor, note col. 8 line 25 to col. 10 line 25, see figs 7a-7b. However Oliver does

not discloses a keep up supply responsive to the voltage cross the capacitor and delivering energy to the capacitor to maintain the voltage at a predetermined level. Whereas Richardson discloses a means is included for sensing a residual reverse polarity charge on the capacitor after generation of a pulse and for using the energy stored in it to assist in recharging the capacitor for the next pulse, note col. 1 line 35 to col. 4 line 54, see fig. 1. For the advantageous of a gas discharge laser, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Oliver with the sensing a residual reverse polarity charge on the capacitor as taught or suggested by Richardson.

With respect to claims 2-3, Oliver et al disclose the switching mechanism includes an inductor arranged for storing energy and time constant that less than a pulse rate associated with the pulse discharge system, note cols. 8-9, see figs. 7a-7b.

With respect to claim 4, Oliver et al disclose the board control (204) and the digital voltage command (210), see figs. 7a-b.

With respect to claim 5, Oliver et al disclose the voltage divider (R1, R2) connected in parallel to the capacitor (42), see figs. 7a-b.

With respect to claim 6, Oliver et al disclose the pulse discharge driven system includes a laser (10), see fig. 1.

With respect to claim 7, Richardson disclose the invention is particularly developed for use in supplying pulse to a microwave tube such as a magnetron in a radar transmitter, note col. 1.

With respect to claims 10-11, Oliver et al disclose the circuit includes inductor (L1), capacitor (42) and switching mechanism (Q1, Q2, Q3) and power supply (200), see figs. 7a-b.

With respect to claims 12-16, Oliver et al disclose a gas discharge laser includes main power supply (200), capacitor (42), inductor (L1), switches (Q1, Q2, Q3), voltage divider (R1, R2) is parallel with capacitor and measuring a voltage at a point along the voltage divider, note col. 8 line 25 to col. 10 line 25, see figs 7a-7b.

Response to Arguments

3. Applicant's arguments filed on 2-25-2003 have been fully considered but they are not persuasive.

On page 9 Applicant argues that Richardson's "sensing a residual reverse polarity charge" to recharge the capacitor is not the same as Applicant's independent claim 1 that includes "a keep up supply" to maintain the voltage at the driving voltage. It is disagreed because Richardson discloses in abstract a capacitor, means for periodically discharge the capacitor to generate pulses of electricity and means for recharge the capacitor between pulses. Means is included for sensing a residual reverse polarity charge on the capacitor after generation of a pulse and for using the energy stored in it to assist in recharging the capacitor for next pulse, because the energy stored in the capacitor when it is reverse charged is re-used (note col. 1 lines 35-45). Further Richardson disclose the operation of the fig. 1 when SCR3 is closed the charge on the capacitor 2 is delivered to the load and under normal conditions the residual charge left on capacitor 2 is of little consequence to normal operation (col. 2 lines 20-45 and col. 4 lines 28-43). This operation provides a keep up supply. Oliver et al shows in figures 7A-B a control board (204), switch (206), inductor (208), diode (215), resistors (R1 and R2) and capacitor (CO), with

the operation of this circuit provide function of the keep up supply of the claim 1, note col. 8 line 25 to col. 10 line 23.

On page 9 Application argues that no suggestion for combines the Oliver et al and Richardson . It is disagreed because the Oliver et al show in figures (7a-b) and Richardson shows in figure 1 having the operation function is the same, which means that both provide the keep up power supply as claimed in the claim 1.

On page 10 Application argues that combined systems of Oliver and Richardson includes a system that includes “sensing a residual reverse polarity charge on the capacitor” which is not the same as Applicant’s claimed system of amended independent claim 1 that includes “a keep up supply” for delivering energy to the capacitor to maintain the voltage at a predetermined driving voltage”. It is disagreed because Oliver et al shows in figure (7a,b) the control board combined with the voltage divide (R1 and R2) provide the function of keep up supply for delivering energy to the capacitor (CO) to maintain the voltage at a predetermined driving voltage and Richardson shows in the figure 1 has the same function of the keep up supply as claimed in the claim 1.

On page 10 Applicant argues that Richardson does not teach replenishing the capacitor voltage using the keep up supply in response to the capacitor voltage discharge below the driving voltage. It is disagreed because Richardson discloses means for recharging the capacitor between pulses, sensing means for sensing a residual reverses polarity charge on the capacitor after generation of a pulse; and residual charge utilization means controlled by the sensing means so that in response to the sensing of a reverse polarity charge the residual charge utilization means uses energy stored in the capacitor by virtue of the reverse charge to assist in recharging the

capacitor of the next pulse, because the energy stored in the capacitor when it is reverse charged is re-used (col. 1 lines 25-45). Further Richardson disclose replenishing the capacitor voltage using the keep up supply in response the capacitor voltage discharge below driving voltage, note col. 2 fig. 1. It is the function of the keep up supply. Also Oliver et al disclose replenishing the capacitor voltage using the keep up supply in response to the capacitor voltage discharging below the driving voltage, note col. 8 line 25 to col. 10 line 32, see fig. 7a-b.

Accordingly, all of above reasons Applicant's argument is not persuasive. The claims are not patentable over Oliver et al and Richardson alone or in combination.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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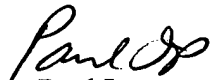
Communication Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan M Nguyen whose telephone number is (703) 306-0247.

The examiner can normally be reached on 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.



Paul Ip
SPE
Art unit 2828

TMN
May 14, 2003